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ABSTRACT

The purpose of this paper is to determine the extent of major structural differences in European higher education and to analyze a number of recent developments within this institutional framework. One of the major changes occurring in European universities since their beginnings in Bologna and Paris has been the elevation of the research function to a primary role. The paper first traces the conceptual origins of this function in Germany, and then compares it with two major historical modifications of that model, the English and American ones. The paper then goes on to present a classification model of tertiary education in Europe for further descriptive and analytical purposes. This is followed by some theoretical considerations of problems which occur in the analysis of processes of institutional diversification. Finally, the paper highlights some of the actual developments and modifications which can be observed in the European systems of higher education in the areas of diversification, efficiency, and access. The paper concludes by noting that the functional approach to the classification of university models is useful for the understanding not only of the flagships of European higher education, i.e., the universities themselves, but also for a differentiated analysis of institutional variations as well as historical and political developments occurring in relation to European systems of higher education. Contains an 89-item bibliography. (GLR)

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The Changing Functions of the European Universities

(Sponsored by the Task Force Human Resources, Education, Training and Youth, Commission of the European Communities)

1. Introduction: Expansion and Differentiation[1]

Most European countries, like other advanced Western societies, have seen an unprecedented expansion of their institutions of higher education over the last quarter of a century, and contrary to many predictions, this process of growth has not yet stopped in several systems. In many of them the number of post-secondary students quadrupled over that period. Staff in universities and other institutions of higher education, as well as government funds for teaching and research, increased at a similar rate. New universities and other forms of advanced learning were set up. New disciplines or sub-disciplines emerged. Outdated structures of institutional authority and government were being challenged. Admission to tertiary levels of education and training in most national systems changed from a restrictive elite-mode to varied patterns of mass higher education.[2]

This development had been initiated on the base of sound and expanding national economies. During the sixties and early seventies, most Western industrial systems grew at a steady rate, thus improving the national GNPs as well as the overall standard of living, while the rates of inflation and the unemployment figures remained at a comfortably low level. Under such circumstances, early calls by educationists, representatives from industries, and politicians for a considerable expansion of educational opportunities on all levels, were soon transformed into national policy programmes. The argumentation underlying these initiatives rested on two main political considerations. The first, the so-called 'manpower-requirement approach', consisted in the conviction of employers and politicians that the national potentials of highly qualified manpower had to grow if the respective countries were to compete successfully on the world market in times of rapidly changing technologies. The second conception related to overall educational and social aims, and was thus termed the 'social demand approach'. Its supporters maintained that the traditional education systems primarily served small societal elites, by being highly selective, and that large proportions of gifted children never got a chance to develop their talents. Thus post-compulsory education should be regarded as a general civil right.

These goals were consequently implemented by most national governments with the help of three political measures in particular: first, the authorities engaged in long-term propaganda activities, in order to encourage ever-increasing proportions of the 'educational reserve' to enter secondary and tertiary education programmes. Second, they introduced or improved comprehensive systems of means-tested grants for pupils as well students. And finally, the traditional homogeneity of the higher education structures was replaced by diversified institutional settings.

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1 I wish to thank Mrs. D. Detring for her assistance in the project work, from which this paper stems.

2 C. Gellert: 'The Limitations of Open Access to Higher Education in the Federal Republic of Germany', in: *Higher Education Policy*, vol. 2, no. 1/1989, pp. 32-34.

This process of differentiation, which is still continuing, was possibly the biggest change in higher education since the introduction of the research function through the German university model. In some countries 'first-tier colleges' were added to conventional universities, offering their students 'short-cycle' degrees. The majority of states however opted for a different alternative, which was to be added to the traditional university sector. This new non-university model of higher education (in the following called the 'non-university sector': NUS) emerged and established itself as a separate segment within the higher education system. In most national systems it was characterized by three aims and purposes in particular: Its institutions were supposed to be practically and vocationally oriented, thus fulfilling the needs of the economy better than universities; they were meant to offer educational opportunities to formerly disadvantaged social strata, thus improving egalitarianism and democracy within society; and finally they were expected to be cheaper than traditional universities, thus supporting national governments in their desire to expand their systems of advanced learning. By the end of the sixties, most European countries had established such NUS's. And by now they are generally accepted as playing a major role within the national systems of higher education.[3]

Thus, the structural and functional changes occurring within the Western university systems have been manifold and considerable. However, many of these changes, particularly those of a qualitative kind which cannot easily be measured in numbers and percentages, have largely remained dubious and opaque. For instance, many debates centre on the perceived threat of the universities becoming primarily teaching institutions, and the notion of them being above all research centres is sometimes treated almost like a sacred principle. Apart from the fact, however, which is easily forgotten, that the European university initially and for most of its history has been a place of training for practical purposes, and that the research function in many systems was introduced only about a century ago, the scope and nature of those changes, or their implications for the overall functioning of higher education is difficult to determine. A similar situation prevails with regard to the universities' and other tertiary institutions' role of professional training. There exists great uncertainty, within and outside the universities, what this function is or should be, whether it is to follow the expectations of the labour-market or not, or what these expectations are, for that matter. Basic differences in the perception of reality, and even more so in its evaluation exist within national systems, as well as between them. The same applies to the function of personality development, which is well acknowledged in the British, particularly the English system, but hardly considered in countries like France or Italy.

Of course, it is not possible here to provide any definite answers with regard to those qualitative changes in European higher education. The purpose of the present considerations is to

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3 OECD: *Alternatives to Universities in Higher Education*, Paris: OECD 1991 (in the press).

determine the extent of major structural differences in European higher education and to analyse a number of recent developments within this institutional framework. For this, we shall first briefly look at some major historical roots of higher education structures. This will, second, put us in a better position to attempt a classification model of tertiary education in Europe for further descriptive and analytical purposes.[4] This will be followed, third, by some theoretical considerations of problems which occur in the analysis of processes of institutional diversification. Finally, and fourth, some of the actual developments and modifications which could be observed in the European systems of higher education will be highlighted.

2. Historical Dimensions and Conceptual Transformations

Although the European universities since the first foundations of Bologna and Paris were for most of their history institutions of practical training and learning, they have undergone major modifications during the last one and a half centuries which have changed their self-definition and publicly perceived purposes in fundamental ways. Above all, the research function has assumed a central role. Therefore this function, in order to understand recent and ongoing transformations of' European places of higher learning, requires particular consideration. In the following, we will briefly describe the conceptual origins of the research function in Germany, which will then be compared with two major historical modifications of that model, the English and the American ones. This does not mean to deny that the French model with its tendency towards institutional separation of research and teaching is just as paradigmatically relevant as the following selection of university systems, as will be pointed out later.

In the German-speaking realm of higher education there has always existed a tradition of a functional unity of teaching and research, i.e. the teaching contents were supposed to be a direct result of the professors' research. The concept of the "unity of research and teaching" may thus be described as the normative expectation that the professional role of academics should be defined in such a way that the occupational aspect of teaching is closely intertwined with and directly based on the ongoing process of research of the individual academic. The idea, in its original form, not only maintains that university teachers should be involved in research at all, but that the specific insights and outcomes of their respective research activities should directly become the substance and contents of their teaching. Within this tradition of thinking, the question whether or not university teachers had to be researchers was not only to be comfirmed in general terms (in the sense that any research would do), but with a

[4] Cf. C. Gellert: 'Institutions- und Strukturforschung über das Hochschulsystem', in: D. Goldschmidt et al. (eds.): *Forschungsgegenstand Hochschule. Überblick und Trendbericht*, Frankfurt: Campus 1984, pp. 217-231.

strict demand for immediate utilisation of research results for teaching purposes.

This aim was clearly formulated by the German philosophers of Idealism and the Prussian administrators who were responsible for the fundamental reform of the universities in the beginning of the nineteenth century.[5] For them, the training of students to become civil servants, teachers, doctors, etc., had to take the form of a seemingly purpose-free process of searching for truth. This required, on the one hand, a large degree of independence for the universities from state interference.[6] On the other hand, it presupposed an internal reorganization of universities in such a way that students and professors could pursue an understanding of "objective truths" in a combined effort. Wilhelm von Humboldt, who called this aim *Bildung durch Wissenschaft* (education through academic knowledge)[7], was convinced that the traditional relationship of authority between pupils and teachers had to be replaced by the undirected and free cooperation between students of different levels of knowledge: "Therefore the university teacher is not any longer teacher, the student not any more just learning, but the latter researches himself and the professor only directs and supports his research."[8] In contrast, for instance, to England, not the student, but the subject was to receive primary attention. As Humboldt put it: "The relationship between teacher and student ... is changing. The former does not exist for the sake of the latter. They are both at the university for the sake of science and scholarship."[9]

Since the search for truth was not to be restricted by considerations of time, immediate occupational purposes or state control, professors as well as students had to be enabled to teach and learn what they were interested in. While this led to the students' "freedom of learning",[10] it also had the major consequence for university teachers that an interest in new, i.e. the discovery of "objective" knowledge among students (the "co-researchers") became the central aspect of their professional (self-) definition.

The actual development of the German universities during the nineteenth century in some respects confirmed the intentions

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5 Cf. C. Gellert: *Society, Politics and Universities in England and Germany* (forthcoming).

6 Cf. F. Schleiermacher: 'Gelegentliche Gedanken über Universitäten im deutschen Sinn', (1808), in: E. Anrich (ed.), *Die Idee der deutschen Universität*, Darmstadt: Wissenschaftliche Buchgesellschaft 1956, p. 272; cf. J.G. Fichte, *Sämtliche Werke*, Berlin: Veit & Comp. 1845/46, vol. VIII, p. 203.

7 The terms "science" and "scientific" are used in the broad sense of the German word *Wissenschaft* which includes the meaning of "academic knowledge".

8 W. v. Humboldt: *Gesammelte Schriften*, vol. XIII, Berlin: Behr 1920, p. 261; - Quotations from German texts are my translation.

9 W. v. Humboldt: *Schriften zur Politik und zum Bildungswesen*, *Werke*, vol. IV, Stuttgart: Cotta 1964, p. 256.

10 The freedom to select freely from what was offered in various disciplines, to change universities whenever they liked, and to take their final exams when they felt ready for them.

of the early reformers and proved their concepts to be successful. As a consequence of the rapid industrialisation and the emerging imperialism of the German Reich, the universities became true research universities. There was a permanent demand for results in fundamental research, particularly in the natural sciences, not least for military purposes.[11] The powerful university professors (*Ordinarien*) were engaged in a continuous process of redefining the frontiers of knowledge. The fields of knowledge were constantly changing and expanding. There seemed to be no need for a clear-cut definition of established scholarly results, nor for specific university curricula. In this situation, the principle of a unity of research and teaching was a natural consequence, since the training of the scholar-students followed the permanent flow of results in fundamental research.

The success of the German universities in specialized scientific and scholarly research even led to a significant influence on other systems of higher education. As Ben-David has observed, "until about the 1870's, the German universities were virtually the only institutions in the world in which a student could obtain training in how to do scientific or scholarly research."[12] At the end of the nineteenth and during the first decades of the twentieth century, many American and British scholars travelled to Germany. If not the function of research as such, but at least the notion that university teachers should be actively engaged in research, was introduced to American and English universities to some extent under the influence of the German example.[13]

3. Modifications of the English, American and German Models

The ways in which the idea of a "unity of research and teaching" was introduced to English and American universities, is however a major indication of the fact that the German ideal has by no means become a universal principle.[14] In the English case, as was mentioned above, there prevailed a strong tradition of orienting university education to the personal development of the

11 It has been calculated that roughly one third of all financial support of university research at the end of the 19th century was spent for military purposes. Cf. H.-W. Prahl: *Sozialgeschichte des Hochschulwesens*, Munich: Kindler 1978, pp. 227f.

12 J. Ben-David, *Centres of Learning: Britain, France, Germany, United States*, New York: McGraw-Hill 1977, p. 22.

13 This applies less to Scottish universities who had a strong research tradition anyway. - For the USA cf. C. Diehl: *Americans and German Scholarship 1770-1870*, New Haven: Yale University Press 1978; for the English case, cf. E. Ashby: 'The Future of the Nineteenth Century Idea of a University', in: *Minerva*, VI, 1, Autumn 1967, pp. 3-17.

14 The following also includes references to the American university system, since European discussions of the subject matter very often use that system for argumentative purposes. Particularly in policy-related debates the higher education system of the US is arguably the most often utilized empirical frame of reference.

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student rather than to disciplinary requirements, as in Germany. Although the old ideal of character formation was transformed into the concept of "liberal education", which put considerable emphasis on scientific and academic training, the intellectual aspect of learning always remained embedded in the broader function of improving an individual's personality.[15] Because of this, the English universities were able to do both: to define clear areas of established knowledge, which were organized as binding curricula, and to encourage their academics to engage in research as part of their defined duties. The latter did or did not coincide with the teachers' topical teaching programme. There was no obligatory link between the two. Research became an important professional characteristic of university teachers; but the research results did by no means have to be directly utilised for teaching purposes. In this way, it was ensured that academics became and remained acquainted with research activities. This seemed to be a sufficient proviso to guarantee high intellectual standards in teaching.[16]

In the United States, the German research example was also adopted towards the end of the nineteenth century. But there, in contrast to England, the consequences for the organization of university teaching and research were more radical. Apart from a complex process of differentiation in the overall system of higher education, which was related to diverging interests, purposes and functions in tertiary education,[17] the sector which is comparable to European universities, i.e. the "research universities",[18] was characterized by a gradual process of organizational and functional segregation from within. The three major functions of the leading American universities today seem to correspond to a threefold structural segmentation: the function of liberal education, in many respects similar to its British counterpart,[19] is almost exclusively reserved for the undergraduate level; the function of professional training is placed in specialized professional graduate schools; and the research function is exercised mainly within the academic graduate schools of arts and science.

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15 Cf. C. Gellert: *Vergleich des Studiums an englischen und deutschen Universitäten*, Munich: Lang 1988 (2nd ed.), pp. 27f.

16 One indication of the growing importance of research as a necessary qualification of academics was the introduction of the Ph.D.. - Cf. R. Simpson: *How the Ph.D. Came to Britain*, Guildford: SRHE 1983.

17 Cf. D. Riesman: *On Higher Education*, San Francisco 1981. - See also: L.R. Veysey: *The Emergence of the American University*, Chicago: University of Chicago Press, 1965.

18 Nowadays, there are roughly 200 doctorate-granting institutions in the USA. These are called "research universities" here. In other classifications the term refers to a smaller group of large universities which are characterized by certain quantitative criteria concerning research activities. Cf. The Carnegie Commission on Higher Education: *A Classification of Institutions of Higher Education*, Berkeley: The Carnegie Commission on Higher Education 1973.

19 The American 'liberal arts' concept is, however, characterized by a stronger interdisciplinary emphasis, while in England the 'Single Honours Degree', i.e. a specialized training in one subject, is still prevalent.

The American research universities are, thus, characterized by an almost complete segmention of teaching and research, at least if compared to the German university tradition. Of course, the professors there are often the same, whether they teach undergraduates or graduates, whether they deal with Ph.D.-candidates or with aspiring professionals. But a close connection between ongoing research and teaching only exists in the graduate schools of arts and science. This is the sector within the American research universities, which has preserved and developed the German heritage.

In Germany, in contrast, the expansion of the university system after World War II has led to an awkward structural and functional muddle. The transformation of the system into places of mass higher education with about four times more students now than in the early sixties, has jeopardized the traditional balance between the tasks of academic inquiry and advanced training of students. The old ideal of a unity of research and teaching is still part of the official value frame of reference at universities. But in recent decades there occurred frictions in this system because of an increasing discrepancy between the traditional research orientation of university teachers and their factual involvement in professional or even vocational training of large numbers.

This tension has been threatening to break up the traditional institutional framework, either by external (overall) differentiation (e.g., the introduction of comprehensive universities and *Fachhochschulen*),[20] or by internal functional separation (e.g. attempts to distinguish professional from research programmes). But despite several decades of reform discussions, this model is still characterized by antagonistic structural features: on the one hand, the students' ability to freely choose subjects, universities and their time of examination; on the other, the professors' freedom to teach whatever they like (both sanctioned by the Humboldtian principle of the freedom of teaching and learning, which was referred to above); moreover, the constitutionally guaranteed open access to all universities for anybody with a respective secondary degree; the bureaucratic and state control of all curricular and organizational matters, including the civil service status of the professoriate; the over-loading of programmes and courses according to individual research interests of the professors; and finally, the widely criticized length of studies in most subject areas.[21]

In contrast to the situation in Germany, the organizational features of the leading sector within the higher education system of the United States are well-ordered and transparent. The main difference between the two models lies in the fact that the US

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20 *Fachhochschulen* are comparable to British Polytechnics and are thus more vocationally and practically oriented in their teaching than universities. Cf. C. Gellert: *Alternatives to Universities in Higher Education - Country Study Federal Republic of Germany*, Paris: OECD, 1989.

21 See C. Gellert: 'Andere Ziele, andere Zeiten. Der angloamerikanische Mut zur Erziehung wird durch kürzere Studienzeiten belohnt', in: *Deutsche Universitätszeitung*, 19/1988, pp. 20-23.

avoided to continue the unsuccessful attempt of the German system to apply the traditional concept of a unity of research and teaching to the functioning of the university as a whole. If research nevertheless plays an important role at American universities, in some respects an even more important role than in many other (Western) university systems, this is largely due to internal control and incentive mechanisms.[22] The important point is that the traditional principle of a "unity of research and teaching", if it ever existed there, is no comprehensive attribute of the overall system of research universities in the United States. The strong research orientation which exists, manifests itself primarily in one segment of the system (the graduate schools of arts and sciences), and its support stems from factors which in many respects have little to do with the requirements of teaching, but with institutional processes of competition and quality orientation.

4. A Functional Classification of University Models

Thus, it is possible to discern three major functionally defined university models in the European context, and in a certain sense a fourth one, if we include the example of the United States. As will be explained later in more detail, this is not an attempt to classify higher education systems in general, i.e. to make sense of any kind of institutional differentiation which has occurred. Rather, the emphasis here is on a characterization of the leading sectors in European higher education, as it must be derived from a historical perspective. It is the university sector in most countries, after all, which sets the paradigm for all analytical considerations and comparisons.

By functional definition of university models we mean the fact that historically three of the leading university systems in Europe, those of England, France and Germany could and to some extent still can be associated with a respective emphasis in pursuing its aims, i.e. a special concern in defining its tasks, which made that particular system distinguishable from the others.[23]

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22 This cannot be pursued here any further. Cf. C. Gellert: 'Wettbewerb und institutionelle Differenzierung - Anmerkungen zur universitären Leistungsbewertung in den USA', in: *Beiträge zur Hochschulforschung*, 4/1988, pp. 467-496; also, the same: *Wettbewerb und Leistungsorientierung im amerikanischen Universitätssystem* (Competition and Achievement Orientation in the American University System), Munich 1991 (forthcoming). - For a detailed analysis of present-day American universities, cf. B.R. Clark: *The Academic Life in America. Small Worlds, Different Worlds*, Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching 1987; also: B.R. Clark (ed.): *The Academic Profession. National, Disciplinary, & Institutional Settings*, Berkeley: University of California Press 1987.

23 The term "functional" should not be confused with "functionalist". While the former means "fulfilling a role" or "having a task", the latter connotes the assumption of certain societal needs, which a set of social actions is supposed to meet or not to meet. For a general critique of functionalism in the social sciences, see A. Giddens, *The Constitution of Society*, Cambridge: Polity, 1984.

From what has been said above, it follows that English universities traditionally had a strong interest in the personality development of their students.[24] This does of course not mean that the other major functions of research and professional training play a less important role there than elsewhere. But it is probably correct to say that at English universities the function of "character formation", as it was called at the time of the "Oxford movement" of Cardinal Newman at the beginning of the nineteenth century,[25] or of "liberal education", as it has been termed in recent times,[26] played a vastly more important additional role than in most other university systems, at least in Europe. Therefore, we may, without wishing to reduce the scope of the system in any arbitrary manner, call the English paradigm the "personality model".

The German university, in contrast, has in modern times always and above all been concerned with the research function. Again this does not mean that the functions of professional training or personal development were not important there. The task of professional training has, like in all university systems in the world, been of fundamental relevance since the Middle Ages. Nevertheless, it is true that the distinguishing characteristic of that model has for a long time been its strong preoccupation with research activities, not least with regard to the consequences for the teaching process. Here it is possible to point to the basic difference between the English and the German models. While they both were concerned with educating their students, this task was seen in dramatically different ways. For Humboldt, education through *Wissenschaft* was meant to finally enhance exactly that: *Wissenschaft* itself. For Newman, research and *Wissenschaft* were not even necessary attributes of university life. In his opinion they could also be pursued in academies outside. What mattered for him, and what still matters for modern supporters of the "collegiate ideal of education"[27], is the institutional utilization of socialization mechanisms which only to some extent can be effectuated by academic means of knowlegde dissemination. Thus, we may refer to the German university system as the "research model".

The French system, finally, is often referred to as the Napoleonic model, because of its strict hierarchical state subordination.[28] Of course, it is possible to distinguish individual higher education systems on the basis of their degree of autonomy

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24 In this context, it is more appropriate to concentrate on England, rather than to include the whole of the United Kingdom or Great Britain, since Scotland has always been much closer to the continental research tradition than England. Cf. G.E. Davie: *The Democratic Intellect. Scotland and Her Universities in the Nineteenth Century*, Edinburgh University Press 1961.

25 J.H. Newman: *On the Scope and Nature of University Education*, London: Everyman's Library 1965 (1852).

26 See for instance E. Ashby: 'The Future of the Nineteenth Century Idea of a University', in: *Minerva*, VI, 1, Autumn 1967, pp. 3-17.

27 Cf. A.H. Halsey: 'University Expansion and the Collegiate Ideal', in: *Universities Quarterly*, 16, I, 1961, pp. 55ff.

28 See for instance, M. Vaughan & M.S. Archer: *Social Conflict and Educational Change in England and France 1789-1848*, Cambridge UP, 1971.

from state interference. Particularly, because of the federal structure of some nations this approach is however only of limited use. Because a system like the German one, which does not have a strong central state impact in educational matters, only appears to be less government regulated than a hierarchical structure like the French one. In international comparison, the former is in fact usually considered to be the higher education system with the smallest amount of institutional freedom from state interventionism.[29]

Other observers have correctly chosen the French system as the one which is characterized by a high degree of institutional segmentation between "science in" and "science out", i.e. the fact that much of the research activities happen outside the university sector, particularly in the Centre national de la recherche scientifique (CNRS).[30] Or, the French system can be regarded as being almost unique in yet another respect, viz. the existence of the elite-sector of Grandes Écoles besides the universities.

From a functional perspective, the last two aspects are however also relevant in another respect. On the one hand, the existence of a strong element of "science out" means that the university system itself is predominantly concerned with the function of professional training. And besides the often referred to aspect of being centres for elite recruitment, the Grandes Ecoles also possess the major characteristic of being primarily places of teaching for top professional positions. Thus we may conclude that the French university system as a whole is more than other systems emphasizing the function of professional training. We can therefore call it the "training model".

The extent to which the other European systems are deviations from or assimilations to these three main models remains to be seen. Since the described models are no pure and homogeneous structures, but a mix of different tasks and purposes, although with differing emphases of respective areas, they should be treated as ideal-typical and heuristic concepts in the Weberian sense.[31]

Before we can attempt to describe some of the major recent developments in European higher education, in order to contribute to such a classification, we have to briefly discuss some problems concerning the phenomenon of institutional differentiation.

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29 See e.g., J. Jadot et al.: 'Hochschulmanagement in Europa', in: I. Bender & W. Henning (ed.): *Universitätsmanagement. Bericht zur Lage*, University of Trier, Dec. 1980, pp. 5-35; cf. also, C. Gellert: 'State Interventionism and Institutional Autonomy', in: *Oxford Review of Education*, vol.11, no. 3/1985, pp. 283-293.

30 See P. Ewert & St. Lullies: *Das Hochschulwesen in Frankreich - Geschichte, Strukturen und gegenwärtige Probleme im Vergleich*, Munich: IHF, 1984, pp. 211ff.; cf. also: Wittrock, B. and A. Elzinga (eds.): *The University Research System: The Public Policies of the Home of Scientists*, Stockholm: Almquist & Wiksell Int., 1985.

31 M. Weber: *Wirtschaft und Gesellschaft*, Tübingen: Mohr, 1972.

5. Methodological Problems of Structural Analysis

Analyses of systems of higher education are usually concerned with structures, institutions, norms, values and models.[32] In several respects there exists however unclarity in the usage of such concepts. Therefore, we will briefly look at a recent account of such aspects in the analysis of higher education systems, which was offered by Ulrich Teichler.[33] Teichler, who is primarily concerned with structural issues in comparative higher education, distinguishes three major approaches to explain structures of higher education:

- The "idiosyncratic" approach deals with historically determined characteristics of higher education which remain stable over long periods.[34]
- The "functional" approach is concerned with the observation that "all modern industrial societies are influenced by certain societal, economic, technological, cultural or educational factors more or less common at certain developmental stages of industrial societies."[35]
- And finally, "political approaches" raise questions "in what way and to what extent deliberate options shape higher education".[36]

It seems however that the "functional" approach in the above definition cannot clearly be distinguished from the "functionalist" conceptions which were referred to above. Teichler's reference in this context to Trow's developmental classification from "élite" to "mass" to "universal" higher education, as the "best known" model of that kind, is further confusing. Since these categories of Trow can at best be used in a descriptive manner, in order to account for broad quantitative changes. But they hardly lend themselves to a meaningful analysis of emerging qualitative patterns.[37] Also, the third aspect of "political approaches" is not really useful in explaining fundamental structural phenomena, since on this level structures can at best be changed, but hardly be brought about altogether.

Also Teichler's identification of four basic structural "models", which played a central role in debates of the 1960's, is

32 Cf. C. Gellert: 'Institutions- und Strukturforschung über das Hochschulsystem', in: D. Goldschmidt et al. (eds.): *Forschungsgegenstand Hochschule. Überblick und Trendbericht*, Frankfurt: Campus 1984, pp. 217-231.
33 Ulrich Teichler, *Changing Patterns of the Higher Education System: The Experience of Three Decades*, London: Jessica Kingsley 1988.
34 Op. cit., p. 14; notwithstanding the curious terminology, this is the approach which has been chosen in the present paper.
35 Ibidem. Such a broad formulation is even outside the range of a functionalist approach in the tradition of Talcott Parsons. As has been pointed out before, our own usage of the term "functional" is more narrowly defined.
36 Op. cit., p. 15.
37 The hidden evolutionist assumptions in Trow's definition are also difficult to support, since they portray societal development in a deterministic, linear fashion.

not of much help for present analytical purposes. These models are the following:

- The elitist model, which aims at quantative limitations of the number of students, and rests on estimates of future needs of both academics and highly skilled workers;
- the vertical model, in which existing differences in education should be maintained in the form of structured and separated components;
- the unitary model, which aims to establish as great a uniformity in institutions and courses as possible, in order to reduce inequality in education; and
- the 'recurrent education' model, which aims at a broad basis of competencies; acquisition of occupational qualification takes place 'on the job'.[38]

The main objection which can be made to these kinds of "models" is that they contain no analytical, but normative categories. They may have been useful for political debates; but for empirical analyses they are too vague.

But Teichler continues to search for "optimal structural models" and narrows the choice to two "extremes":

- The "diversified model", according to which a "stronger equalization of educational provisions would serve to a lesser extent the different abilities of both the most talented students on the one hand and, of the disadvantaged students on the other; at the same time, the diversified model would - in contrast to a clearly segmented system - provide for corrections of educational careers where appropriate." [39]
- And the "integrated model" which "advocates the admission of students with different prerequisites and abilities to the same institutions, even to a certain extent to common courses of study. In the framework of an intra-institutional differentiation, students would share some common experience and finally acquire degrees, which would differ in academic standards to a lesser extent than in the case of a 'diversified' structure."[40]

But the problem with the diversified model in the eyes of Teichler is that it does not exist. Nevertheless, he offers the following ideal 'typology' of the diversified model:

- "Distinct educational provisions for different kinds of students rather than efforts to reduce such differences and backgrounds and prospects, are emphasized."

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38 Op. cit., pp. 29f.

39 Op. cit., p. 31; according to Burton Clark, variety of students, multiplicity of functions, and control of higher education institutions are not sufficient in defining the concept: "In addition, a 'legitimacy' of single and distinct 'institutional roles' is essential." B.R. Clark: *The Higher Education System: Academic Organization in Cross-National Perspective*, Berkeley: University of California Press, 1983, p. 221.

40 Op. cit., p. 31

- "A relatively steep hierarchy of institutions or course programmes according to 'quality', intellectual demands and reputation is typical for diversified systems."[41]

- An élite sector, which presumably will always be part of the system, in order to preserve old university traditions and teaching/research-linked education.

- Institutions which do not only differ in rank (i.e., vertically), but also in character, while being at the same level (i.e., horizontally).

- The system is dynamic in more than one aspect: it allows permeability for students; it changes institutional ranking relatively often.[42]

Apart from the fact, that on the basis of the above categories it is difficult to see why Teichler refuses to acknowledge the existence of a diversified model in the US, he in the end concludes his analysis of structural debates in higher education with the following statement:

"The debate as well as the corresponding research seldom focus convincingly on the major issue of controversy between the diversified and the integrated model, i.e. to what extent learning in higher education is most successfully promoted either by a relatively homogeneous or a relatively heterogeneous environment."[43]

This conclusion is remarkable not only because the functional aspect of learning (which of course is closely connected with the one of professional training) suddenly becomes "the major issue", presumably at the expense of most of the former concerns with questions of selection or permeability (i.e. transfer possibilities).

The reason, why Teichler in the end emphasizes this aspect of learning, is, from our perspective, the need to acknowledge functional, rather than formal aspects of structures which in the final analysis are alien to the research topic.[44]

Because, structure is a sub-concept of institution. It refers to routinized social actions and their normative orientations. Institutions are relatively stable forms of reproduced social structures, in which "knowledgeable agents" permanently create the conditions for their own continued social existence.[45] Applied to institutions of higher learning this means that the

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41 Not too steep though, otherwise the system would not be responsive enough to changing conditions.

42 Teichler, op. cit., pp. 54-56. However, diversity between sectors does not imply that within sectors everything should be equal. Diversity can abound on that level as well.

43 Op. cit., p. 99.

44 This is also the reason, why he ultimately ends up with a rather relativistic approach to dealing with structural phenomena: "One has to draw upon a broad range of diverse concepts in order to examine their utility in explaining structural developments in higher education and their causes in industrial societies in the last few decades." (p. 108).

45 On this concept of a "duality of structures", see A. Giddens, op. cit., pp. 297ff.

"knowledgeable agents" of such systems (professors, students, etc.) are reproducing their institutional frameworks according to the inherent functional requirements. The definitions of the latter may vary, as we have tried to indicate earlier on. But in any case, it is difficult to assume that social actors of a particular institutional setting can be expected to pursue and implement, within the framework of their institution, norms and values from "external" societal contexts. Of course, there exists a manifold normative overlap. Thus, the members of a scientific community are naturally and often concerned with problems of educational equality and social selectivity in society at large. But they cannot transform these general social and political concerns into institutional defintions of the rationale of academic institutions. The latter cannot resolve all kinds of societal injustice. Individual members of the institution are of course free to engage in theoretical and practical activities to overcome such societal insufficiencies. The institution at large, however, cannot but define its *raison d'être* in its own functional terms.

6. Recent Developments in European Higher Education

6.1 Diversification

The most important reason for using a functional approach for the analysis of tertiary education consists in the overall process of differentiation which almost all systems of higher education in the West have experienced during the last twenty or thirty years. Because it is only if we possess a fairly clear idea of what the "flagships" of higher education, i.e. the university sectors have looked like, what their predominant features were, before the diversification processes began,[46] that we can try and understand some of the shifts and modifications in the way in which the European tertiary training institutions are performing their tasks.

Therefore it is not useful to attempt to conceptualize complete systems of higher education in their functional respects. The emerging differences in functions and societal expectations of differing sectors of higher education are exactly of central interest. The notion of differentiation or diversification is therefore basically a formal one. It either exists or it does not. This fact in itself is not of fundamental importance. It is only if we consider how processes of differentiation have brought about new forms of higher education or research, or in what respects they are the result of changing expectations from the labour market in times of rapid economic and technological transformations, that such structural modifications become relevant.

Thus, the development of the NUS in the Federal Republic of Germany, in particular the expansion of the *Fachhochschulen*, was characterized by specific functional orientations. With the emergence of the NUS the traditional system of higher education has been differentiated in decisive ways and a new and

46 The terms "differentiation" and "diversification" are used here as synonyms.

independent, functionally significant and economically as well as politically viable alternative sector in higher education became firmly established. The following aspects were of special importance for this development, primarily for the increasing demand from students and employers.[47]

First, the concept of a practically oriented and applied, though academically and scientifically based training, including vocational entry qualifications and practical study periods, turned out to be widely accepted. The qualifications which were gained within the above framework were not only increasingly in demand from industry and other sectors of the labour market. They also became more and more attractive for secondary-school leavers as an alternative to the university sector.

Second, the limitation of *Fachhochschul* courses to three or four years (in the latter case, if practical work experience in between is part of the programme) can be seen as a major advantage of this institution of tertiary education over the curricular organization at German universities.[48]

Third, a problem which during the first few years of their existence caused some concern, viz. "academic drift", i.e. the tendency to try to be like universities, does not any longer seem to hinder the *Fachhochschulen*. This lack of identity has in recent years been replaced by the conviction among most *Fachhochschul* professors that the practically oriented professional training at their institutions has become an important functional contribution to society in times of rapid technological and economic change. Many of them have realized that this functional perspective has opened up new action fields for applied research and development which are not only in demand from industry, but further enhance the specific profile of the *Fachhochschulen*. These research activities have also led to various forms of cooperation between the *Fachhochschulen* and the economy, for instance the centres of technology transfer, which have significant implications for communal and regional development.

These changes in the German system of higher education, finally, not totally by-passed the universities. There are now indications that the example of the *Fachhochschulen* with their practically oriented training and research and their efficient programme organization, has invited imitation from the universities. In several respects, what has been achieved at the *Fachhochschulen* has been the result of extensive policy discussions and recommendations in the university sector during the last twenty or thirty years. The universities now acknowledge the need for more responsiveness to the requirements of the labour market, or for a more transparent structure of the curriculum and the course programme. But the universities are in a number of areas still far away from getting efficiently organized. The still

47 Cf. C. Gellert: *Alternatives to Universities in Higher Education - Country Study Federal Republic of Germany*, Paris: OECD, 1989.

48 The average study-period at German universities for a first degree is now about seven years.

worsening problem of the length of courses of studies is but one major sign of such dilemmas.

The *Fachhochschulen* not only in several respects provide a cheaper and more efficient alternative to universities (although in a limited range of subjects), but they also cater to a larger extent than the universities for formerly disadvantaged groups of the population. The question however remains open whether still existing prestige differentials between the universities and *Fachhochschulen* and corresponding differences in income and occupational entry levels can be overcome in the future. Thus, in summary, the implementation of the NUS, on the one hand, has proven to be effective in a democratic society striving for egalitarianism; on the other hand, it has raised new questions about the reproduction of structural distinctions in society through the higher education system.

A similar development as in Germany has occurred in Britain with the establishment of the binary system, i.e. the introduction of the Polytechnics, and in France with the creation of the IUT's (Instituts universitaire de technologie). There are differences with regard to the overall size of these NUS's in relation to the university sectors.[49] But in terms of functional alternatives to the universities, the three segments are quite similar.[50]

Overall, the different quantitative developments in those three systems can perhaps be interpreted in relation to the degree of emphasis the respective university system has placed on professional training in the past. The system with the strongest tradition of professional training (France) has the smallest response in the practically oriented alternative sector. Germany comes second both ways. And England, with its long-lasting bias within the university system against vocational training, is faced, probably not by coincidence, with a particularly strong non-university sector.

The Netherlands, to give one more example, has also been characterized by recent moves towards diversification. This has happened in the form of up-grading and reconstructing the higher vocational education (HBO) sector through mergers. "...the combination of two or more seperate institutions into a single organizational entity, whereby control within the new organization is with a single governing body and single chief executive, and whereby all assets, liabilities and responsibilities of the former institutions are transferred to the new single institution."[51]

[49] Britain has established the biggest alternative sector, with about half of its student body there. Germany comes next with roughly one quarter of the students studying in the NUS, and in France it is less than 10 per cent.

[50] Cf. OECD: *Alternatives to Universities in Higher Education*, Paris: OECD 1991.

[51] Leo C.J. Goedegebuure: 'Institutional Mergers and System Change. Reconstructing the sector of higher vocational education', in : Peter A.M. Maassen and Frans A. van Vught (eds.): *Dutch Higher Education in Transition. Policy Issues in Higher Education in the Netherlands*, Culemborg: Lemma 1989, p. 73.

The restructuring operation, known under the acronym STC (Scale-enlargement, Task-reallocation and Concentration) featured the following three major objectives:

"1. A considerable enlargement of the size of the schools by means of mergers between the HBO-institutions;

2. an enlargement of the autonomy of the institutions with regard to the resources, personnel policy and the structuring of the educational processes;

3. a greater efficiency in the use of resources by using larger groups, where possible, concentration of expensive equipment and other provisions, co-ordination and where possible a combination of course-elements."[52]

Van Vught comes to the conclusion that, whereas the Dutch universities were predominantly based on the von Humboldt-type university, with, later on, some Anglo-Saxon influences, the HBO is more based on the French "Napoleonic" tradition in higher education (professionalism).[53]

This fits the overall picture of the major university models and their variations. Because the Dutch system, located between the German and the English ones, seems to have responded also somewhere within the range of institutional reactions which were displayed by those two systems; i.e., the NUS in the Netherlands is stronger than in Germany, but not quite as powerful as in Britain.

6.2 Efficiency

The four "Napoleonic" systems of the Mediterranean (Greece, Italy, Portugal and Spain) also fit into the above scheme. Not primarily because of the tradition of state hierarchy as such, but because of the implicitly strong leaning towards professional training, these systems have so far also seen fairly weak non-university sectors.

Greece is perhaps the most advanced among those four (which, *vice versa*, could mean that the university sector itself has not been very convincing in the performance of its tasks).[54] In 1974 the first KATEE were set up.[55] They aimed at formalizing and regulating the hitherto not looked after private schools in the field, and at formalizing the status of people holding a degree or diploma of these private schools. The KATEE were not very successful, however.

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52 Op. cit., p. 79.

53 Cf. F. van V..ght: 'Higher Education in the Netherlands. An introduction', in: Maassen and van Vught (eds.), op. cit., pp. 12-16.

54 The fact that a high proportion of Greeks study abroad is perhaps an indication of this.

55 KATEE is the Greek acronym for Centre for Technical and Vocational Education and can be seen as the Greek equivalent of the U.S. community colleges. Cf. - A.G. Kalamatianou, C.A. Karmas, T.P. Lianos: 'Technical higher Education in Greece', in: *European Journal of Education*, vol. 23, no. 3, 1988, pp. 272-273.

1) They were unpopular because they were relatively unknown and could not compete with the status of university degrees.

2) The KATEE came into being under the dictatorship, which did not add to their popularity.

3) Although meant as an accomodation for newly sprung up labour demands, in practice it was an outlet for the "surplus" of students seeking higher education, and it was seen as a second-class education.

4) KATEE themselves started to suffer a while from more enrolments than they could handle if they wanted to maintain the same high standard.

The KATEE then were replaced by the TEI (Technological Education Institutions). TEI and university level institutes have roughly the same structure:

- They are legally independent entities;
- self-government and academic freedom guaranteed by law;
- both apply the same management and administrative practices;
- there are no differences in the privileges students enjoy.[56]

Rather than being concerned much with building up attractive alternatives to universities in higher education, the Mediterranean countries seem to have put particular emphasis on overall quality and efficiency improvement in recent years. Whereas up to the end of the 1970's above all quantitative answers were given, by means of facilitating access to university and opening more universities, in the second period more 'qualitative' answers by means of new laws of reform (Italy, 1980; Greece, 1982; Spain 1983; Portugal, 1986) were provided. "It is possible to detect in all of them an effort to modernize the role of the university vis-a-vis a changing society, basically by (i) breaking down the traditional centralized organization of the higher education system, and (ii) attributing greater relevance to the role of higher education in the political scene."[57]

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56 Kalamatianou et al., op. cit., p.273. Specific problems of the TEIs nowadays are: - The status of teaching staff. Almost a third has tenure, the rest is working on contracts. It is difficult however to attract good full time teaching staff, because the salaries are not negotiable. Thus the content of the teching staff "reservoir" constantly changes. - TEIs in central areas (Athens, Thessaloniki and Piraeus) are overcrowded, TEIs in regional areas are seriously under-subscribed.

57 Roberto Moscati: 'Editorial: Higher education in Southern Europe: different speeds or different paths toward modernization?', in: *European Journal of Education*, vol 23, no.3, 1988, p. 191. An extra impetus is given by the Single Market: "The need for compatible systems of higher education, with comparable degrees and comparable professional training of a potentially mobile labour force at different levels to be achieved within a fixed period of time, has strengthened the position of social and economic forces who are in favour of modernising the higher education system in each of these countries." Op. cit., p. 192.

In Italy, there also occurred a major debate about quality concerns. The "laurea" has been criticized, because the time involved in order to obtain this (first) degree is deemed too long for a more technically/vocationally oriented course, and too short for a proper scientific doctorate. Furthermore, "it was pointed out that, chiefly beacuse of the persistence of the idealistic tradition, the studies for the laurea gave too much emphasis to general culture and often neglected any elements of professional training."[58]

In recent debates there emerged a growing demand for the extension of the *numerus clausus* for other disciplines than those for which it already exists.[59] This demand is countered by the opposition, who points to the fact that since 1974-75 the number of graduates has been a steady 70.000 per year, which is considered quite low. Furthermore, still according to the opposition, Italy needs more highly qualified labour than it can actually produce, which makes the reduction of access to higher education illogical.[60]

In the last twenty years many reforms have influenced Italian university life, and one of the effects was the growth in the number of councils and other governing bodies. The old structures however have not been abolished and still exist alongside the new ones. Overlapping power structures caused a loss of enthusiasm for management of universities by staff itself, and diminished the effectiveness of the new bodies. The same lack of planning can be seen on the national level: some universities have become overcrowded, others have become undersubscribed.[61]

Generally, we can conclude from the above observations, that practically all European systems of higher education are in one way or another concerned with matters of efficiency, be it through differentiation and the provision of diversified qualification patterns for a heterogeneous labour market, like in most mid and Northern European countries, be it in the form of government reforms and initiatives, like in the "Napoleonic" systems of the South.

58 Giunio Luzzatto: 'The Debate on the University Reforms Proposals in Italy and Its Results', in: *European Journal of Education*, vol. 23, no. 3, 1988, p. 238.
59 There exists a *numerus clausus* in several laurea courses (psychology, dentistry, informatics, medicine), motivated by reasons of capacity of pedagogical resources, and sometimes also by labour market considerations.
60 Mario Gattullo: 'Italia', in: *Etude comparative des qualifications de fin de scolarité obligatoire et de formation professionelle*, European Institute of Education and Social Policy, Paris, 1989, pp. 60-61.
61 Cf. G. Luzzatto, op. cit., p. 245.

6.3 Access

The final area which we will briefly look at, concerns the problem of educational opportunity and access to higher education. In the Mediterranean countries, we can again discern a common trend. There the emphasis is on egalitarianism in connection with higher education: education is seen as a means to reduce social differences. Behind this value lies the fact that a university degree has great social prestige in these countries. This has partly accounted for the growth in demand for university education. Other reasons are:

- youth unemployment; young people postponing their entering the labour market
- relatively easy access to higher education because of the lack of selection criteria and/or numerus clausus procedures.[62]

Generally, the overall picture reveals that those systems with a strong professional orientation, like France and the Mediterranean countries, are keeping their university systems more readily available for open and fairly unrestricted access, while other countries have tried to cope with rising student numbers by implementing new forms of tertiary education. As was pointed out before, this raises the difficult issue, whether these alternative provisions in higher education really enhance educational opportunity in the sense as it was originally envisaged. A recent OECD-publication has summarized this aspect as follows:

"These differentials of status have more than managerial or financial implications. In many countries, entrance to the universities is still the prime ambition of intending students. The NUS is often second best, and its more rapid growth in some countries came about because the universities have not expanded enough. This raises the question of how valid claims really are that the NUS has increased educational opportunities for formerly disadvantaged social strata. On the one hand, there obviously now exist expanded chances to study for advanced qualifications. On the other hand, most of the qualifications to be gained in NUS institutions are on a lower level than university degrees (in terms of prestige as well as with regard to their market value). If the original measure of educational opportunity, twenty or thirty years ago when these policies were proclaimed, was a *university* education, with all its implications for upward social mobility, then the real increase in educational opportunity must be called rather limited. Policy makers in Member countries therefore have to be careful to avoid a situation in which differentiated systems of higher education possibly contribute, although on a higher level, to the perpetuation of class differentials in society."[63]

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62 R. Moscati, op. cit., p. 190.

63 OECD: *Alternatives to Universities in Higher Education*, Paris: OECD 1991, op. cit..

7. Concluding Remarks

As was suggested above, a functional approach to the classification of university models is useful for the understanding not only of the flagships of European higher education, i.e. the universities themselves, but also for a differentiated analysis of institutional variations as well as historical and political developments occurring in relation to European systems of higher education. The identification of the "research model" in Germany, the "training model" in France and the "personality model" in England did not mean to imply that there are such "pure" systems. Rather, these models serve heuristic purposes, insofar as they make alternative developments within their own realms as well as differing structures and aims in other systems more transparent and easier to locate.

At this point it is too early to offer definite concepts about precise functional distinctions or similarities as derived from the mentioned three models. However, a major result from the above considerations is the methodological need of putting less emphasis in future analyses of this European research field on formal aspects of structural differentiation, and of concentrating more on functional, i.e. qualitative and historically informed features of tertiary education and research institutions. Particularly, it should be attempted to distinguish more rigorously the genuine characteristics of the institutions in question from outside societal functions, norms and values. This does not mean to say that such external political or social concerns are less significant. But it means that by confusing those norms with the functional requirements of universities and other institutions of higher education, the task of analysing higher education in a comparative perspective is becoming more difficult.

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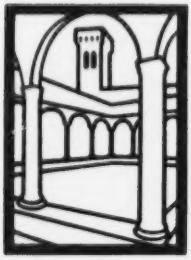

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